

Zoning Board of Appeals – Town of Spencer

Minutes



Regular Zoning Board Meeting
Tuesday, June 22, 2010 at 7:15 PM
McCourt Social Hall
Memorial Town Hall

The meeting was called to order at 7:20 p.m.

Zoning Board Members Present: Chairman Allan Collette, Clerk Pamela Crawford, Joanne Backus, and Albert Drexler, alternate.

Zoning Board Member Absent: Delores Kresco.

Staff present: William Scanlan, AICP Planning Consultant and Bea Meechan, Senior Clerk ODIS.

New Business:

A. Special Permit – John Wentworth, owner, Spencer Renewable Energy, LLC c/o Alfred Magnone, applicant, for property located at 103 North Spencer Road (Assessor's Map R49/1/1). Mr. Collette opened the hearing at 7:20 p.m. The Clerk read the brief. The applicant is requesting a special permit in accordance with Section 4.3.4 (Major Utility) of the Spencer Zoning Bylaw to construct a 2-megawatt solar farm at 103 North Spencer Road. The property is located within the Rural Residential Zoning District and partially in the Residential-Business Overlay District.

Note: Mr. Alfred Magnone, Mr. Matthew Mrva and Mr. Douglas Gay, business associates, were present this evening.

Mr. Collette announced the members sitting in the voting were Ms. Backus, Ms. Crawford, and himself.

Mr. Collette asked the applicant for a presentation on the application.

Mr. Mrva said the property is farm land, has unobstructed access to the sun, without shade from buildings, trees or other vegetation – it is an ideal site for a solar farm. The proposed project requires little site disturbance. The plan proposes landscape screening evergreen trees 8-10 feet in height along Altacrest Road and North Spencer Road. The existing vegetation will remain the same. The required setback is 55 feet for front setback, and 25 feet for side and rear setbacks. Both State and the Federal government are in support of renewable energy. The proposed solar farm will be a positive addition to Spencer. He also submitted aerial photos to the Board.

The following were questions from the Board and Mr. Scanlan:

Is there any facility to house a conversion component of the Direct Current (DC) electricity, and if there is, is the conversion component stored inside or outside facility?

Mr. Gay replied that there will be a small “inverter” facility on the premises which will be located in close proximity to the power grid. He then pointed out the location on the plan (toward the intersection of Altacrest Road and North Spencer Road). The inverter’s primary purpose is to convert the DC electricity coming from the solar array in Alternating Current (AC) electricity, which is the type of electricity used in homes and in business. The conversion component will be installed inside the inverter facility.

The conversion of electricity takes place in the inverter. For safety concerns, what type of security will be implemented to prevent people from breaking-in and accidentally causing harm?

Mr. Gay said there will be a 6-foot high chain link fence around the premises with a locked gate. The inverter facility also will be locked at all times.

The Board suggested the fence should be higher than 6 feet.

The Board inquired as to the components of the solar system, the shape/size of the panel/collector, the height of the mounting pole, the angle of the array, and number of solar panels being proposed.

Mr. Gay said the panel has a flat shape and is approximately 3-4 feet in length. The mounting pole is 2 feet high. The solar array can be mounted in a fixed position (they don’t move), or it can be at an angle. Since solar arrays generate electricity when they are exposed to sunlight, the more sunlight they are exposed to then the more electricity they will generate. In the northern part of the hemisphere, in New England, the sun moves across the sky at a slight angle. *Thus, the angled array is appropriate for this project, the arrays will be tilted back and forth slightly.* The project proposes 6,000 – 7,200 solar panels/collectors. The Distribution Company (National Grid) has been contacted to discuss the feasibility of an interconnection array sized up to 2-megawatts.

Does the power company (National Grid) have any investment in the project, and is there any agreement between the applicant and the power company?

Mr. Gay replied that there is no investment from the power company. Solar energy is being heavily promoted and supported by the State and Federal governments. By law, the utilities are required to purchase electricity generated from independent renewable power producers. The proposed project is considered very small scale, too small to require an agreement. Mr. Gay will provide the website address of the Green Community Act (rules and regulations) to the Board.

Does the interconnection (to the power grid) provide sufficient capacity to handle the increased electricity flow – in the event this shall occur?

In reference to the narrative provided to the Board, Mr. Gay explained that the State of Massachusetts has specific guidelines governing interconnection by on-site generators to the power grid, to ensure that requests for such interconnections are processed promptly and fairly, and that on-site generators do not create safety or performance issues for the power grid. The utility will inspect interconnected systems to verify that they conform to safety requirements. A cursory impact study, an analysis that determines if the electric grid has the capacity/stability for interconnection of this size of project, revealed that the affected circuit would be able to handle the increased electricity flow.

How are the solar arrays implemented and maintained, and are they designed to withstand the normal weather conditions (wind and snow)? The Board is concerned that the reflection from the solar collectors/arrays may have an impact on motorists' vision.

There are several reputable solar energy manufacturers. Mr. Gay said that "Suntech Solar Power" has been chosen for manufacturing and implementing the solar system. The solar array will be ground-mounted using screws/piles to anchor the framework into the ground. The entire solar modules and photovoltaic poles are flexible and designed to withstand high wind loads and snow loads. The manufacturer can design the product to have low reflection.

The Board requested the applicant for a submission of Suntech's brochure.

Has there been any data/analysis on the correlation with the solar conversion site to health issues among immediate residents?

Mr. Mrva responded that many homeowners and businesses have already implemented the solar energy system on their rooftops. If there were safety/health issues associated with being in proximity to the solar system site, it is highly unlikely that public officials (both State and Federal) would be strongly in support of the renewable solar energy development. Mr. Mirva said he will do research, and if there is such that study done on the subject, he will provide that to the Board.

The Board had concern on the soil compaction. The site is farm land. The project's construction (moving of heavy equipments, the weight of the solar components, etc) can cause damage to the soil structure.

The project would be constructed on the grass areas. The installation process is *very quick* and simple. The existing vegetation along the property line will remain the same. The plan also proposes to plant trees along the North Spencer Road as mentioned above.

Does the project use a "working liquid" (pressured gas or liquid chemical) component in the solar system collectors for generating the power – electricity? There was concern on any impact on the environment.

Mr. Gay said that the project is environmental friendly and pollution free. The project proposes Photovoltaic (PV) Systems that use PV cells (crystalline silicon) on flat-plate PV collectors

which has glass and thin film on the front surface. The PV collectors when intercepted with the solar energy will directly convert the sun light into electricity.

Is there such a facility in Massachusetts that implemented the PV system, PV collectors?

Yes, Massachusetts Technology Collaborative had implemented the PV system at its manufacturing facilities, said Mr. Gay.

The high temperatures during the hot weather combined with the temperature from the electricity produces by the solar system, will this increase heat intensity on the site, and to the neighborhood? In addition, what is the level of noise created by the solar system?

Mr. Gay explained that electronics work better in cooler temperatures in general, thus, the energy system works more efficiently in a cooler atmosphere: The system will produce less amount of electricity when the temperature is high. Due to the lack of the moving parts of the solar PV system, the operation is almost silent.

When the project is operated at a maximum capacity, the Board asked the amount of electricity that would be generated and for how many households? Also, how will the net-metering be handled?

Mr. Gay said the project would provide power for 2,000 households. Under Mass General Law (MGL), facilities with PV systems of a designated size can sell excess power back to their utility and received a credit for power produced. The customer is billed for the “net” electricity purchased from the utility over the entire billing period: The difference between the amount of electricity delivered from the power grid and the electricity generated by the PV system. A customer’s electric meter can run both forward and backward in the same metering period.

Mr. Scanlan inquired as to the cost of the project. Does the project receive any funding from the State or the Federal at all? In addition, do the prospective consumers (residential and commercial) if they choose to participate in the solar energy, receive any tax credit?

Mr. Gay responded the cost is \$6,000,000 for this project, and it will be funded through a private equity source. As for the consumer tax-credit, there is information available on-line from both the State and Federal governments (Green Community Act) websites.

The Board requested the applicant to submit the website address.

Mr. Collette opened the hearing to the public for any questions or comments at this time.

Mr. James Sadusky of 104 North Spencer Road said that the proposed site is across street from his property. He explained that the site has always been flooded in the spring and water runs across the road onto his property. He likes the idea of having clean energy – renewable energy. A concern was that the construction of a solar system might worsen the existing drainage issue.

Due to the topography of the site it shows a hill being on the back and having a natural slope from the hill to the front of the property and a road (North Spencer Road) is a concern. In this natural setting, the excess water runoff flows from the higher to lower altitude. The Board directed Mr. Scanlan to contact Mr. Robert McNeil, Superintendent, Utilities & Facilities Department if he has any knowledge of the drainage problem at the proposed site.

Mr. Scanlan said he will contact Mr. McNeil and report back to the Board.

The Board had decided to continue the hearing to allow time for the applicant for a submission of the additional data and information requested tonight.

In summary, the applicant shall submit the following to the Board **before** the next hearing:

- ✓ The brochure from Suntech Solar manufacturing company and its products.
- ✓ The data/analysis on any correlation with the solar site and the health problem among the residents in the vicinity.
- ✓ The fencing and the security plan for the site.
- ✓ The State and Federal website addresses on Green Energy and Green Community Acts.

Ms. Backus made a motion to continue the hearing to July 13, 2010 at 7:15 p.m. Ms. Crawford seconded the motion and the vote was 4-0 in favor.

Approval of Minutes:

Ms. Backus made a motion to accept the minutes for May 25, 2010. Mr. Collette seconded the motion and the vote was 2-0 in favor with Mr. Drexler and Ms. Crawford abstaining.

Ms. Backus made a motion to accept the minutes for June 8, 2010. Mr. Drexler seconded the motion and the vote was 4-0 in favor.

Old Business: None

Other Business: None

With no further discussion, Ms. Crawford made a motion to adjourn the meeting at 8:15 p.m. Ms. Backus seconded the motion and the vote was 4-0 in favor.

Submitted By:

Bea Meehan, Senior Clerk, ODIS